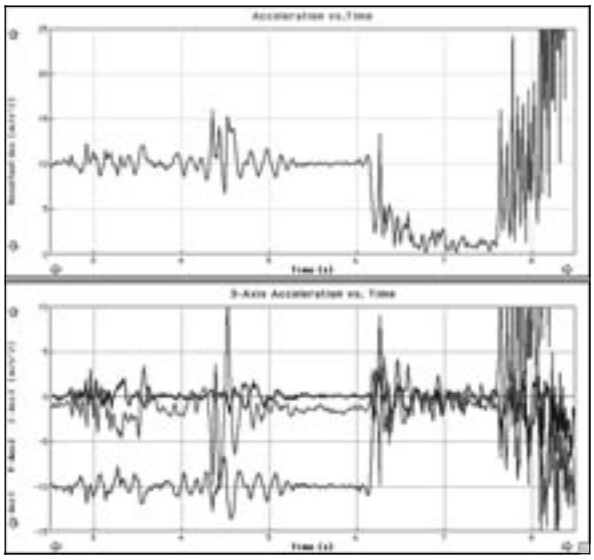
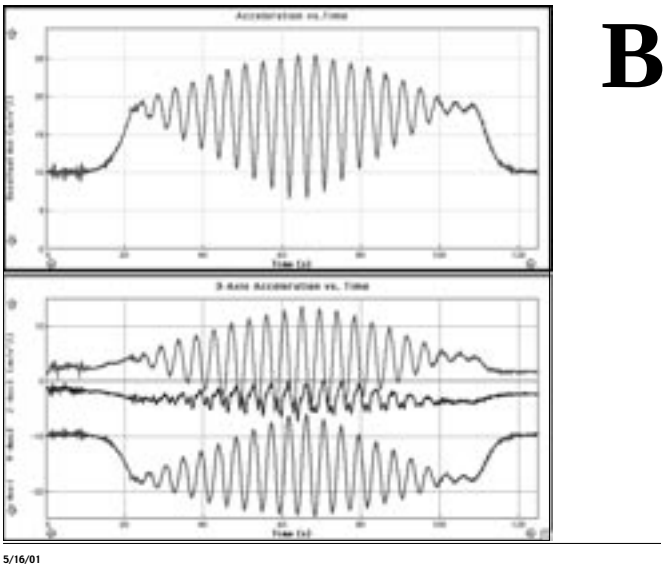
ACCELERATION MATCH GAME
Answer Key



A

Demon Drop

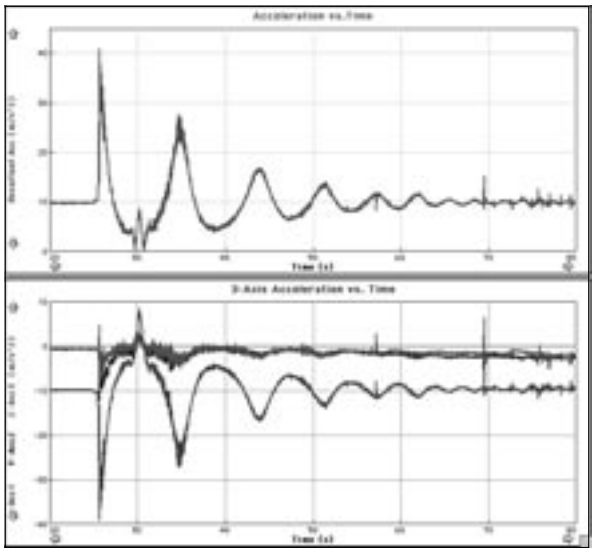
Notice the sudden reduction of total acceleration at about t=6 sec which indicates the beginning of the drop. The free-fall continues for about 1.5 seconds.



B

Witches Wheel

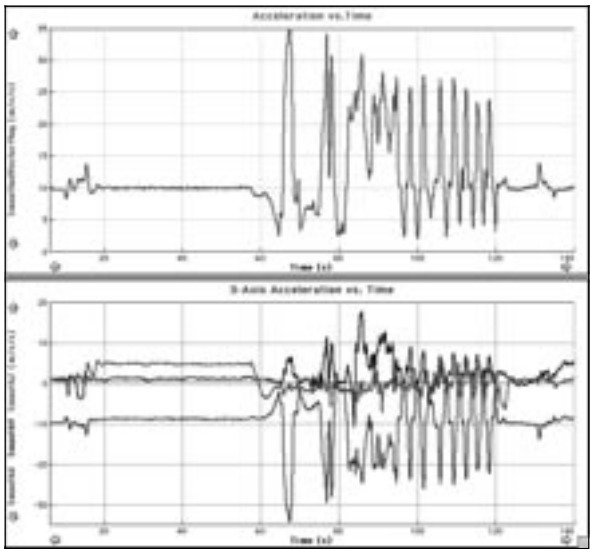
Notice the gradual increase in acceleration as the ride spins faster to start. When the ride is gradually tilted, the rider feels lighter at the top and heavier at the bottom.



C

Power Tower

Notice the sudden large increase in acceleration as the rider was propelled upward at a 4-g acceleration. The successive low levels of acceleration are the tops of the bounces when the rider feels ‘light’.

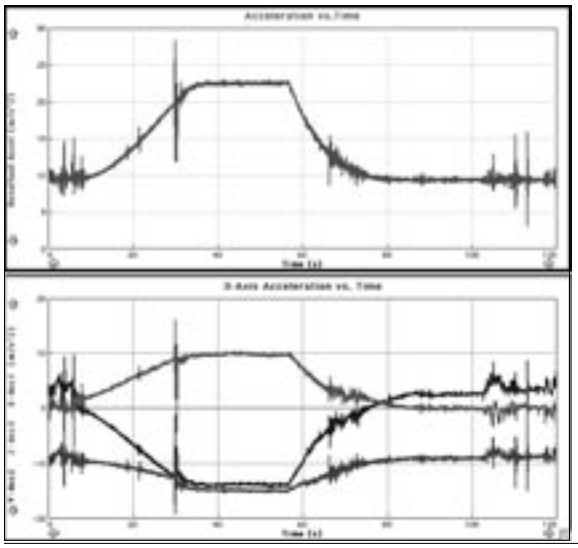


D

Magnum XL-200

Notice the reduced level of resultant acceleration at the tops of the hills and the higher acceleration levels at the bottoms of the hills. Notice the 1-g vector resolved into two components for 40 seconds going up the first hill.

ACCELERATION MATCH GAME
Answer Key



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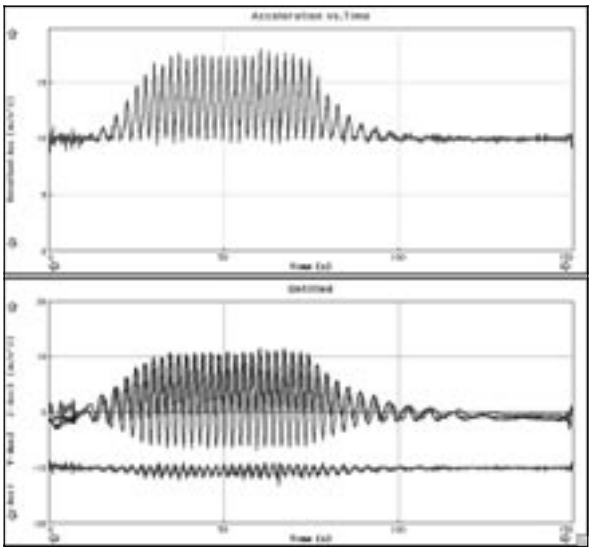
E

Rotor (at COSI-Columbus)

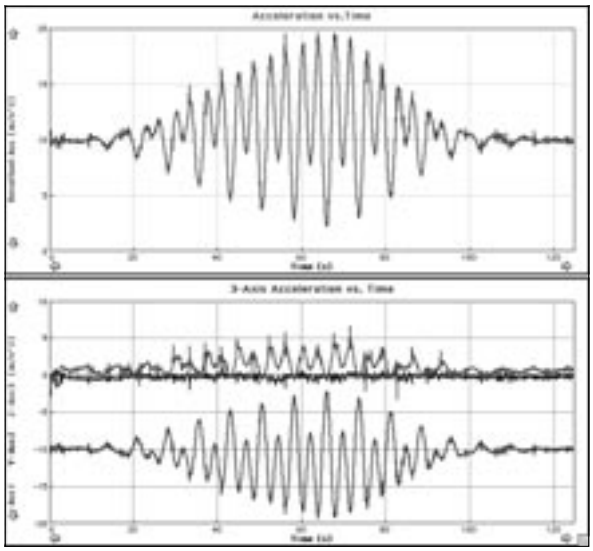
Notice the gradual increase in acceleration as the Rotor is spun faster to start the ride. The large spike at t=30 s is the floor falling and the smaller disturbance at t=65 s is the floor raising.



F

Scrambler

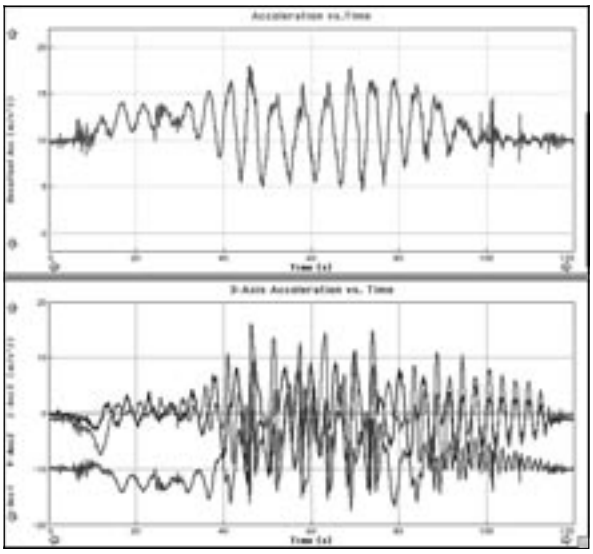
The vertical acceleration remains basically at 1-g since there is no real vertical motion. The two horizontal axes (left/right and front/back) have an out-of-phase, cyclical variation in acceleration.



G

Ocean Motion

Notice the asymmetric nature of the accelerations due to the rider sitting at one end of the boat. The feeling is different at one end of the swing than at the other. The lower peaks would be more even if it were measured at the center of the boat.



H

Chaos

Notice the cyclical nature of the resultant acceleration but the rather chaotic nature of the individual axes. The general motion of this ride is similar to the Witches Wheel but the individual axes get a more random experience due to the rotations.